

may be optical or magnetic, rigid or floppy. The disk 10 has many concentric video tracks 1A, 1B, 1C . . . , each storing one picture. Fifty such tracks, and fifty pictures, are typically placed on the disk. A playback head 14 is seen adjacent one of these tracks. (Ordinarily the disk 10 will be contained in a protective cartridge, which is not shown here.) A player circuit 16, shown as a block diagram, reproduces each picture for display on a television 18 according to a particular arrangement prescribed by the display attributes of the video picture file.

Data necessary for establishing the video picture file is contained in a remote memory 20 appended to the container 12. The remote memory 20 may be a solid state device attached to the container 12 as a separate element as shown by FIG. 1. It may also be a magnetic stripe formed on the container 12 or a removable element, say one of the disks, taken from the container 12 when it is in the player. In related patent application (B), Ser. No. 644,097, the remote memory 20 is shown as a detachable memory module containing one or more electrically-erasable programmable read-only memories (EEPROMs).

The remotely-stored data includes display attributes initially obtained by editing the pictures, that is, by assigning the pictures to one or more of, say, twenty albums or categories of like image content, by rearranging the viewing order (from the order on the disks), by skipping some pictures, by adding text to the assigned pictures, by setting individual viewing times, and so on. The viewer communicates with the player circuit 16 by observing editing "screens" 22 produced on the television 18, which provide a guide to selections, and then entering a decision via an infra-red remote controller 24.

The video picture file data is stored in the remote memory 20 and remains there though the container 12 is removed from the player. To view an album, the container 12 is inserted into the player and the remote memory 20 is connected into the player circuit 16. An album is selected by observing album selection "screens" generated from the picture file data and pressing appropriate buttons on the controller 24. The pictures are then obtained in a rearranged order according to the particular album by accessing the disks, and the picture tracks on the disks, in a rearranged sequence—that is, a sequence unlike the order of disks, and tracks on the disks, as stored in the container 12. Viewing then proceeds automatically through the album according to the pre-selected display attributes with the viewer essentially unaware of the particular disks and tracks being accessed. The most the viewer does is to advance from one picture to the next by depressing an appropriate button on the remote controller 24.

The player circuit 16 includes a digital processor 26 that operates by means of programs and data stored in a memory array 28. The memory array 28 includes a set of read-only memories (ROMs) 30 for storing the operating programs and a word library for text generation. Read and write memories include the aforementioned remote memory 20 and input/output (I/O) space 32 for memory-mapped I/O, that is, an area of memory space dedicated to memory addresses that are actually used to address peripherals (such as motors and sensors). Each memory in the array 28 is connected to an address bus 36 and a data bus 34.

The processor 26 also interchanges data with a video circuit 38, which processes video and control data either read from or written on (i.e., applied to) the video

disk 10. The processor 26 is also connected to a text controller 40, which generates the aforementioned "screens". The digital processor 26 operates the player by coordinating signals from a variety of input sensors, including the remote controller 24 and the head 14, with commands to a variety of output devices, including the motors (not shown) that move the container 12 in the player, remove the disk 10, position the head 14, and rotate the disk 10. The display to the television 18 is provided by switching the video circuit 38 line-by-line between a picture signal from the head 14 and a text signal from the text controller 40.

The organization of the pictures into a video picture file is reduced to a manageable task by partitioning the editing procedure into several levels according to related patent application (C), Ser. No. 644,166. The editing procedure involves a variety of the aforementioned "screens"; viewer selections are made from the remote controller 24 based on messages on the "screens". Before describing in detail the "screens", and the circuits and techniques for implementing and using them, it is helpful to recognize the part the method according to the invention plays in the overall editing procedure. Once editing commences, by a command initiated from the controller 24, a "set-up screen" shows on the television monitor 18. The "set-up screen" offers the viewer an opportunity to review and change certain display parameters (described in detail later) that apply for all the pictures. The "set-up screen" also includes a particular parameter that, when selected, takes the viewer to the next step of editing, (by way of the "menu screen", which will be explained later). The various editing levels then appear on the television 18. Two are of particular interest: the "disk edit" level and the "picture edit" level. Categorizing the pictures into albums is done by virtue of the "disk edit" level. Engaging this level causes the processor 26 to retrieve the first picture from a selected disk in the container 12. The picture is reproduced along with a descriptive overlay showing the available albums. The viewer inspects the picture and selects the album deemed appropriate for that picture. When the selection is made, the album assignment for the picture is entered into the remote memory 20. This procedure continues for each of the pictures.

As often happens, the viewer would like to look again at the pictures which were skipped (i.e., unassigned to an album) in the initial pass through the "disk edit" level. It is of course possible to start the "disk edit" level all over again. The previous assignments—or lack thereof—will show on the descriptive overlay. However, according to the invention, a much more convenient procedure is provided by the "picture edit" level. Engaging this level causes the processor 26 to retrieve the first picture from a selected disk that is unassigned to any album. As with the "disk edit" level, the picture is reproduced with an album overlay and the appropriate album may be selected. But now the viewer only has to contend with the pictures that were skipped. In the preferred embodiment of the invention, the "picture edit" level causes the selection of only those pictures unassigned to any album. As will be shown, the selection of one or more of up to twenty albums for each picture is provided. With so many albums, it may be helpful if the "picture edit" level is capable of selecting those pictures unassigned to one or more selected albums. The invention as claimed is intended to cover this eventuality. Thus, the entering of the "picture edit" level may include the specification of one or more ex-